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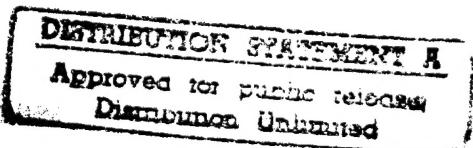
**OPERATIONAL CONSIDERATIONS FOR EMPLOYING**  
**ARMY PRE-POSITIONED AFLOAT (APA)**

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Joint Military Operations Department.

The contents of this paper reflect my personal views and are not necessarily endorsed by the Naval War College or the Department of the Army.



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## **INTRODUCTION**

Post-Cold War changes to our National Security and Military Strategy have profoundly altered the way we have organized our military forces to achieve U.S. strategic objectives. Since the Berlin Wall came down in 1989, symbolically ending the cold war, senior leaders have shaped our force structure and revised our doctrine to counter evolving worldwide threats. Our revised military strategy depends less on forward deployed forces and places more reliance on continental United States (CONUS)-based contingency forces. This new philosophy depends heavily on a rapid force projection capability from CONUS or other, outside-CONUS locations to meet growing regional threats and crises.

The Army's power projection strategy envisions the rapid deployment of up to a five-division contingency corps by C+75 to achieve national military objectives<sup>1</sup>. Strategic lift shortfalls have driven a strategy that depends heavily on a global pre-positioning program to meet the regional requirements of the geographic commander-in-chiefs (CINCs). The majority of these pre-positioned assets are land-based equipment sets positioned geographically to support a two Major Regional Contingency (MRC) scenario. One equipment set, Army pre-positioned afloat (APA), is maintained in a "swing position" in the Indian Ocean to respond to the first crises area and has a reinforcing mission to the second MRC should a crises also develop in that region. This dual apportioned mobile force package is the Army's most versatile heavy force asset. It provides strategic agility and operational reach that CONUS based or regionally deployed forces can not provide.<sup>2</sup>

The unique nature of operations that require use of APA ships and the wide spectrum of organizations, commands, and agencies responsible for their employment require centralized

planning and decentralized execution. The complex nature of APA operations require the supported commander's early involvement in providing time-critical guidance and decisions. Because these operations will most likely occur under crises conditions, the supported commander must provide clear guidance for the decisive points within the plan that are crucial for successful execution.

This paper will explain the basic structure of APA operations and identify five of the critical early operational decisions that must be made by the supported commander. Identifying the force package option to employ, defining of the area of operations (AOR), and the early decisions necessary to establish the operational functions of command and control (C2), protection, and logistics in the theater of operations are the key elements that determine successful APA employment. Operation Vigilant Warrior (OVW) provides a recent historical example of APA employment under crises conditions and furnishes valuable insight on the impact that these decisions can have on overall mission success. My personal assessment of operational decision making during OVW comes from my observations as the first arriving ground force maneuver element commanding an armored task force. As a "consumer" of operational decision making, my tactical perspective attempts to accurately and fairly assess the effectiveness of the operational commander and his staff during this deployment.

## **OPERATION VIGILANT WARRIOR**

APA was employed in its first crises response role by the Central Command (CENTCOM) Commander during OVW in October 1994. In response to the threat of renewed Iraqi aggression

and associated troop movements in Southern Iraq, General Peay (CINCCENT) quickly deployed joint and combined forces to the region to deter aggression and avert a further crises. APA and in-theater pre-positioned equipment sets were the only Army forces (ARFOR) ground maneuver elements deployed during the crises. In-theater pre-positioned equipment sets were considered insufficient to deter or halt an Iraqi ground attack. This situation led to the decision to employ the APA heavy brigade as a reinforcing force.<sup>3</sup>

### **APA DOCTRINE**

APA employment doctrine is contained in Army Field Manual (FM) 100-17-1, Army Pre-positioned Afloat Operations. This manual is less than a year old and has captured the recent lessons from APA deployments in support of Somalia during Operation Restore Hope and South West Asia (SWA) during OVV.

APA operations may employ one ship in support of a humanitarian assistance mission or all of the APA vessels required to support a campaign plan. Equipment pre-positioned afloat has universal utility for the CINCs: It represents critical weapon systems, equipment, and supplies common to all theaters. A mobile force package, it can be repositioned quickly in response to a crises anywhere in the world.

APA provides the combatant CINCs with deployment flexibility and increased capacity to respond to a crises or contingency with a credible force. APA assets contribute mobility and flexibility to this strategy and provide the force projection capability to deter potential adversaries.<sup>4</sup>

## APA CAPABILITIES

APA provides the combatant commander a heavy combat brigade and associated support that is capable of arriving into theater and being prepared to fight 15 days after alert notification (C+15). The fighting strength of the brigade consists of two armored and two mechanized battalions plus support. APA also provides theater-opening combat support (CS)/combat service support (CSS) units, a range of port-opening capabilities, and sustainment stocks for the first 30 days of the contingency (less bulk fuel and water).<sup>5</sup>

The entire APA package is uploaded onto 16 strategic sea-lift ships and is configured to provide maximum flexibility to the combatant commander by allowing him to make incremental discharge decisions that support various deployment options. These pre-configured force modules can be modified to a limited extent to support the commander's specific needs. The ship discharge requirement for each force module is shown at enclosure 1.

**- Force Module D:** Force structure of approximately 1,428 soldiers, equipment, and sustainment to provide initial port opening support for small humanitarian missions.

**- Force Module C:** Force structure of approximately 2,551 soldiers, equipment, and sustainment to provide minimum port support for peace keeping and humanitarian support operations.

**- Force Module B:** Force structure of approximately 3,711 soldiers, equipment, and sustainment to support limited combat and peace enforcement operations.

**- Force Module A:** Force structure of approximately 5,652 soldiers, equipment, and sustainment to provide full port support for major regional contingencies.<sup>6</sup>

## **PEACETIME ORGANIZATION**

The combatant commander's operational responsibilities for APA employment during crises conditions are made more apparent by understanding how APA is controlled and maintained during peacetime.

In May 1992, the Army Chief of Staff transferred ownership of all Army War Reserve (AWR) material from the warfighting CINCs to the Department of the Army. The intent of this policy was to de-link the use and ownership of this material from the geographic CINCs to allow creation of a strategic common user stockpile of supplies capable of supporting the worldwide requirements of the Army.<sup>7</sup>

Army Material Command (AMC) was designated the responsible agent for management and accountability of the AWR program. AMC organized several subordinate commands to act as their management agent for specific elements of the AWR program. These organizations include the Industrial Operations Command, the War Reserve Command, and the individual Combat Equipment Groups that are ultimately responsible for every aspect of supply, maintenance, and accountability of each equipment set. At the operational level, AMC remains the responsible agent for AWR operations and acts to coordinate all the activities of its subordinate commands necessary to prepare and issue the equipment sets to the gaining unit.<sup>8</sup>

The APA heavy brigade is uploaded on strategic sea-lift ships that are normally berthed at Diego Garcia. This places the APA ships in a "swing position" between SWA and Korea that allows them to respond in the shortest time possible to either developing crises. The exercise and maintenance cycle of the ships and equipment is managed by AMC to ensure maximum readiness

and capability. These ships operate in the Pacific Command (PACOM) AOR are therefore under the combatant command of Commander-in-Chief Pacific (CINCPAC) who provides daily operations support, siting, and security. Administrative control is provided by the commander, Military Sea-lift Command with all other support being provided by AMC.<sup>9</sup>

### **PHASING APA OPERATIONS**

The doctrine for phasing APA operations is well established and reflects lessons learned during OVW and the continuous refinements provided by the Army's combat training centers. The seven phases of APA operations are planning; alert; deployment; reception, staging, onward movement, and integration (RSOI); employment; redeployment; and regeneration/reconstitution of equipment.<sup>10</sup>

The specific events that signal the transition from one phase to another and the activities that occur during each phase are discussed in more detail at enclosure 2. These phases are referred to when discussing the supported commanders operational considerations during APA employment. They are listed here only to familiarize the reader with the doctrinal terminology for phasing APA operations and to assist in understanding the follow-on discussion.

### **DETERMINING THE SCOPE OF APA COMMITMENT**

The most critical decision the combatant commander makes with regard to APA operations is the timing and level of commitment necessary to support his overall plan. This

decision sets into motion a series of activities by supporting commands that is both well defined and to some extent inflexible. Precise identification of needs is critical and significantly impacts APA's contribution to the mission.

Supporting commands assess all aspects of APA readiness early during the planning process to aid the supported commander in course of action (COA) development. These are primarily passive liaison activities such as assessing ship maintenance cycle status, their location and availability, the status of uploaded equipment, and the availability and training readiness of units to man the equipment. Complicating the process, however, is the time sensitive nature of APA operations and the requirement for supporting commanders to "lean forward" when commitment of APA is being considered. Active measures can be implemented by supporting commanders once the CINC receives the Chairman, Joint Chiefs of Staff (CJCS) warning order requesting him to respond with a recommended COA. Measures to reposition ships, prepare them for deployment, mobilize reserves, and increase liaison with supporting agencies can all be undertaken in support of a COA not yet approved for execution.<sup>11</sup>

Committing the APA heavy brigade as a force module A package under a worst case, time critical scenario seemingly provides supporting commanders their most executable option. These conditions dictate that the entire APA package deploys in its predetermined sequence at the greatest possible speed that sea and security conditions will allow. The supported commander is able to designate the theater structure to support all phases and activities of this employment option based upon clearly developed doctrine and operational experience. Requesting something less than the whole package, employing incremental force modules, or modifying the pre-planned sequencing has the potential to seriously disrupt synchronization of the plan.

OVW provides a good example of how these decisions impact APA operations. The crises erupted in the CENTCOM AOR at a time when a mechanized brigade from the 24th Infantry Division had just completed an *Intrinsic Action* exercise in Kuwait. *Intrinsic Action* allows U.S. forces to maintain a forward presence while exercising pre-positioned equipment from the Army's strategic AWR program. The brigade's re-deployment activities were halted mid-stream once the crises was declared and they were re-deployed into a Tactical Assembly Area (TAA) just south of the Iraqi border in support of other coalition ground forces. CINCCENT had combat forces forward deployed in his AOR and a mature, relatively secure, theater infrastructure for support. What CINCCENT didn't have enough of was mechanized ground forces.

Complicating the decision to employ the APA heavy brigade was that the APA fleet was at the time positioned in an exercise area more responsive to Korea than SWA. Once the execute order was received, the ships required for theater opening and sustainment were the furthest away from the sea port of debarkation (SPOD). In effect, the APA fleet was sequenced in reverse order than that doctrinally required for employment. The need for heavy ground force elements immediately in theater did not allow for ships to be re-sequenced. The decision to "take them as they arrived" seriously unhinged activities already undertaken by supporting commanders to support a doctrinally sequenced APA operation.

### **ESTABLISH THE AREA OF OPERATIONS**

Determining the APA force module to be employed can influence how the supported commander organizes his theater of operations. This is an important early decision because of the

impact it has on the operational functions of C2, protection, and logistics to be discussed later. APA has no forced entry capability and therefore requires a relatively mature infrastructure for employment. The supported commander must carefully assess the capabilities within his AOR and define a theater of operations that includes the critical facilities and support capabilities necessary for successful employment.

The primary infrastructure requirements necessary for APA operations are sea ports, airfields, and storage and troop support facilities. The required capacity and support capability of these facilities depends on the APA force module being employed and must carefully consider the factors of time and space relative to the overall mission. Additionally, the proximity of the marshaling area, where RSOI activities are being undertaken, to the TAA will determine transportation network requirements and the level of supplemental host nation transportation support that will be needed. Political considerations with regards to U.S. forces personnel may also influence the size and orientation of the theater of operations.

These factors played a major role in how CINCCENT defined the theater of operations for OVW. The joint force commander's (JFC's) area of operations (AO) centered around Kuwait. The proximity of Iraqi troop concentrations along the Kuwait/Iraqi border made port, air, and troop support facilities in Kuwait unsuitable for APA operations for force protection reasons. CINCCENT was forced to work through the country team to extend his theater of operations to include a large portion of Saudi Arabia. This was a politically sensitive arrangement with the Kingdom of Saudi Arabia who placed major troop end strength limitations and access restrictions on U.S. forces personnel. Additionally, this decision greatly extended lines of communication into

the JFC's AO, complicated host nation support agreements, and significantly increased the time and space calculations for building a sufficient deterrent force within the Kuwait AO.

## **OPERATIONAL FUNCTIONS**

“The establishment of an “area of responsibility” (AOR) or a theater brings into existence theater-wide “functions” that allow the operational commander the wherewithal to plan, prepare, conduct, and sustain, military actions across the full range of military operations”.<sup>12</sup> APA operations place special requirements on the combatant commander to ensure that the operational functions established within his AOR facilitate APA employment. All operational functions are relevant to APA operations and should be synchronized to facilitate the most effective utilization of this strategic asset. C2, protection, and logistics, however, have the greatest initial impact on APA operations. These operational functions require early and careful consideration by the supported commander to ensure that they facilitate the special requirements of APA operations.

**COMMAND AND CONTROL:** “Command and control (C2) is perhaps the single most important operational function. . . . It is the means by which the commander synchronizes joint force activities in time, space, and purpose in order to achieve Service and functional component unity of effort with respect to strategic objectives”<sup>13</sup>

The complex nature of APA operations requires that command relationships be established early in the planning process. The sheer number of supporting commands and other diverse

agencies lends to confusion and the occasional protection of interest if these decisions are not carefully thought-out, resourced, and enforced.

Many aspects of C2 for APA operations are already well defined in doctrine. These command relationships will normally be specified in the CJCS's alert order to the supported CINC.<sup>14</sup> The Army service component commander (ASCC)-- the senior Army operational-level commander assigned to a unified command-- is responsible for planning APA operations. He works closely with the CINC to ensure that clear command relationships are established and maintained throughout all phases of APA operations.<sup>15</sup> This process will almost certainly break down where functional C2 relationships are not directed, well established, or are established but not working. The supported commander must carefully consider C2 relationships and monitor the potential impact of time and space factors on the developed structure. The crises atmosphere of OVW required tremendous C2 flexibility and provides relevant examples of the effect poorly designed an insupportable C2 structure has on operations

One of the first decisions the supported commander must make relative to APA operations is to designate either Military Traffic Management Command (MTMC) or a composite transportation group (CTG) to operate the SPOD.<sup>16</sup> Out of sequence arrival of the APA ships and the decision to expand the theater of operations to include Saudi Arabian air and sea ports delayed the port management decision. The effect was that neither MTMC or a CTG were in place when the initial ships arrived, causing confusion and delay while this structure was developed during the download process. The large theater of operations also allowed time and space factors to adversely effect C2. The JFC in Kuwait had to communicate over 500 kilometers

to the ASCC's Saudi Arabian headquarters in order to coordinate onward movement time-lines and force projection estimates to support his integration effort in the TAA.

**PROTECTION:** "Protecting one's own and friendly forces from a wide range of threats is one of the commander's most important responsibilities. . . . It consists of all actions and measures taken to counter the enemy's firepower and operational maneuver so as to make one's own and friendly forces and assets difficult to locate, strike, and destroy".<sup>17</sup>

APA is a strategic asset that requires specific force protection measures. For the supported commander, this responsibility begins during the deployment phase once APA ships enter his geographic AOR. This responsibility ends following regeneration/reconstitution of equipment and these assets are returned to CINCPAC's combatant command. The supported commander must plan for and emplace force protection measures well in advance of APA operations so as not to delay their employment or expose them to unacceptable risk. These decisions may require early deployment of forces to provide force protection support and may require modification of the time-phased forces deployment data (TPFDD).

Force protection measures may consist of establishing security/exclusion zones under international law and maritime exclusion areas at sea. The supported commander must determine his force protection requirements early in the planning process to ensure that the country team has sufficient time to request host country cooperation in establishing security measures. Security measures apply not only to ships and off-loaded equipment sets during RSOI operations, but also to airfields, troop support facilities, and the logistics storage facilities supporting APA operations. The control measures established must clearly define mission responsibilities for:

- Air space control
- Air Defense control
- Ground security
- Sea security areas, including ports
- Fire support coordination
- Movement control<sup>18</sup>

CINCCENT realized the strategic importance of APA assets during OVV and took the extraordinary measure of trading time for space by expanding the theater of operations to include a large portion of Saudi Arabia. This action provided more effective air space control and protection because of the significant in-country presence of U.S. and coalition Air Force assets in Saudi Arabia. Not requiring the Naval component commander to operate in the restrictive waters off the coast of Kuwait also facilitated more effective naval support for the operation. One of the biggest concerns for troop concentrations during the initial phases of the operation was exposure to terrorists attack. This threat was reduced by dispersing arriving troop concentrations, negotiating additional host nation security support, and sequencing company size elements into the TAA as soon as when they were prepared for onward movement.

**LOGISTICS:** “Operational logistics focuses on force reception, infrastructure development, and the management of material, movements, personnel, and health services. Contractors and civilians provide support from within as well as from outside the theater of operations”<sup>19</sup>

The magnitude of logistics support is directly related to the force module planned for the operation and the degree to which an existing theater support structure is developed within the AOR. APA operations require extensive logistics support during the initial phases of APA employment and decrease once the 15 day of supply force sustainment supplies are integrated

with the force. Sustainment requirements peak during the reception, staging, and onward movement sub-phases of RSOI. A full range of logistics support must be planned for and emplaced well forward of deploying personnel and equipment that will sustain operations until the brigade ties-in with the JFC's logistics structure in the TAA.

APA assets used in the early arriving reinforcing role are particularly sustainment intensive. A careful, detailed assessment must be completed to determine the full range of sustainment requirements needed to support the planned APA operation. Existing logistics systems, infrastructure, host nation support agreements, and interservice support capability must be quickly assessed. Shortcomings must be identified, planned for, and carefully monitored to facilitate the uninterrupted time phasing of personnel and equipment into the AOR. The most pressing initial problems will be troop support facilities, transportation for personnel and equipment, bulk fuel, potable water, and logistics storage facilities.

The CENTCOM theater of operations demonstrated how a relatively mature theater logistics infrastructure facilitates successful APA employment. A well developed aerial port of debarkation (APOD) and SPOD facilitated uninterrupted flow of personnel and material into theater. A modern port facility overcame some of the problems improperly sequenced vessels would have caused by not requiring early employment of the port opening module. The availability of in-country host nation and contractor support enabled planners to surge logistical support when the need arose.

Troop support facilities did become a problem when CONUS-based forces began arriving before sufficient equipment had been off-loaded from APA ships. The unintended back-up of personnel was driven by TPFDD requirements and required more troop support capacity than was

planned for. The decision to significantly extend the lines of communication into the JFC's AO because of force protection concerns also placed a burden on heavy equipment transportation assets available in country. This required careful management of in-country transportation assets and forced incremental sequencing of combat assets into the Kuwait AO.

## **CONCLUSION**

APA is more important than ever in providing the Army the strategic agility necessary to meet its responsibilities in support of national military objectives. This versatile strategic asset provides the combatant CINC's with deployment flexibility and increased capability to respond to a crises or contingency with a credible force. The existence of this force projection capability provides the early arriving combat capability to deter potential aggressors and to successfully executing halting operations should deterrence fail.

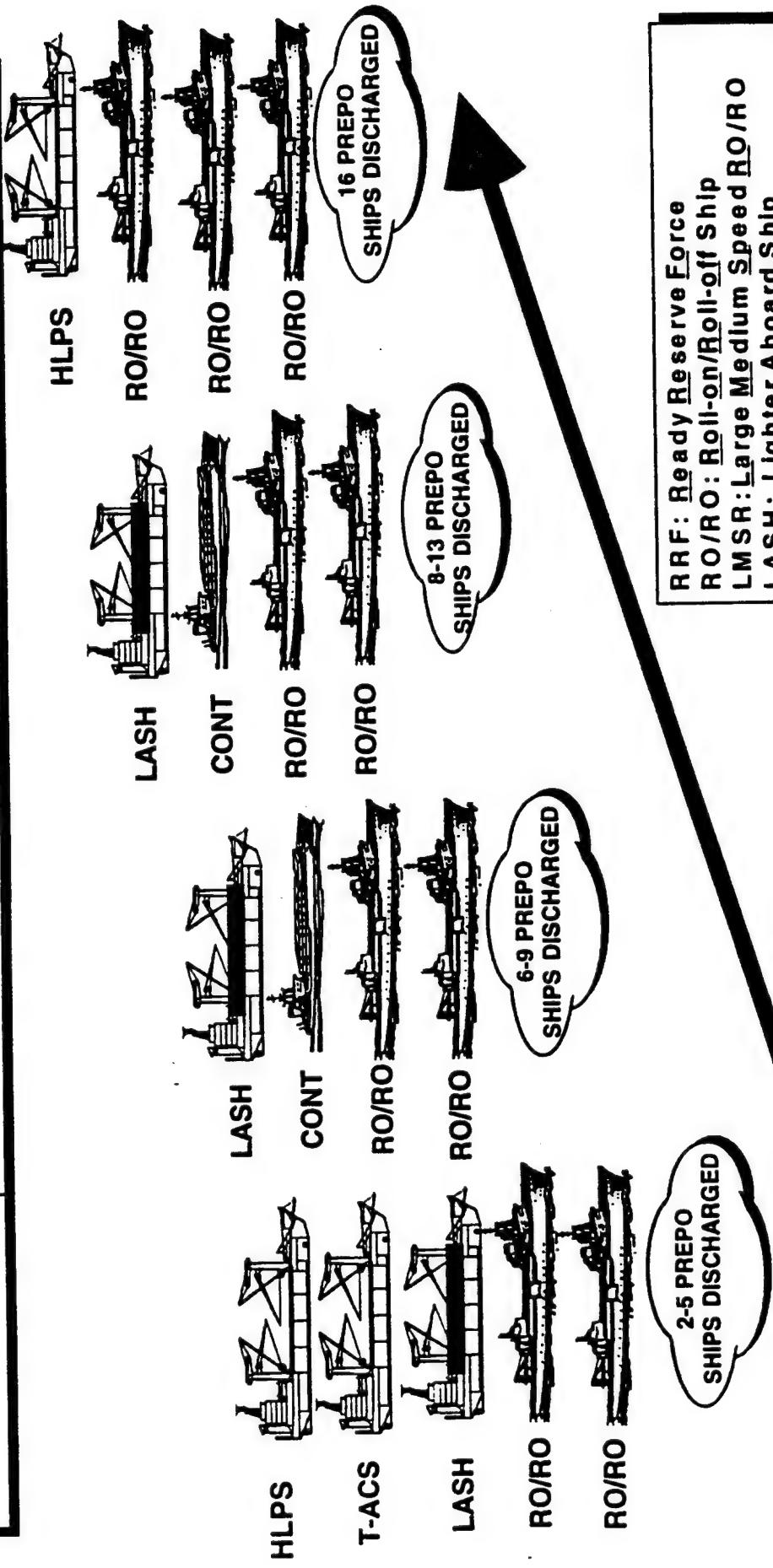
APA has not, however, simplified the job of our combatant commanders. APA employment is the most complex heavy force deployment mission for the CINC/JFC to execute. The decentralized structure that supports peacetime management of the APA fleet must be masterfully orchestrated early during the transition phase to facilitate successful employment. The supported commander becomes the focal point once this force is allocated for employment and must carefully select the decisive points where he will influence planning and execution of the APA mission. These decisions are time-critical and must be made early in the planning process.

APA operations during OIW provide a recent example of the what these decisive points might be and furnishes insight into how important these decisions are on mission accomplishment.

An early decision on which force module to commit and establishing a theater of operations to support that decision is crucial. Once the theater of operations is established, the supported commander must insure that the key operational functions are established to facilitate uninterrupted progress of APA assets through all of the phases of APA operations. All operational functions are important. However, C2, protection, and logistics are the operational functions that have the greatest potential to disrupt APA operations if they are not considered early in the planning process.

# APA Support of Surge Operations

MODULE D	MODULE C	MODULE B	MODULE A
INITIAL PORT OPENING SUPPORT FOR SMALL HUMANITARIAN MISSIONS	PEACE KEEPING AND HUMANITARIAN SUPPORT OPERATIONS	LIMITED COMBAT AND PEACE ENFORCING OPS (LRC)	FULL MRS COMBAT AND SUPPORT OPERATIONS (MRC)



RRF: Ready Reserve Force  
 RO/RO: Roll-on/Roll-off Ship  
 LMSR: Large Medium Speed RO/RO  
 LASH: Lighter Aboard Ship  
 T-ACS: "T" Class Auxiliary Crane Ship  
 HLPS: Heavy Lift Prepo Ship

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## Phases of APA Operations<sup>20</sup>

1. **Planning:** Planning is an on-going function. APA assets are apportioned to the geographic CINCs and are incorporated into their area-oriented contingency plans. CINCs conduct deliberate planning for all phases of APA operations for inclusion in OPLANs or CONPLANS that may require APA support. Supporting commands also develop plans to support the requirements of the combatant commanders.
2. **Alert:** This phase begins with the CJCS alert order and initiates a wide range of pre-deployment preparation activities. Deploying personnel initiate movement to aerial ports of embarkation (APOE) and start deployment of liaison and advance party personnel. Supporting commands conduct a detailed assessment of APA readiness, establish liaison with the supported commander, and consider options, like repositioning, to decrease response time.
3. **Deployment:** The deployment phase begins with the departure of the first main body forces from the APOE or when the APA ships begin transit to the SPOD. This phase ends once the last aircraft of the brigade's main body arrives at the APOD and the APA vessels close on the SPOD.
4. **Reception, Staging, Onward Movement, and Integration (RSOI):**
  - **Reception** is the off-load of personnel and material from strategic or operational transport at a point of debarkation for relocation to designated areas.
  - **Staging** is organizing and preparing for movement of personnel and material at designated areas to incrementally build forces capable of meeting the operational commander's requirements.
  - **Onward Movement** is relocating forces capable of meeting the commander's operational requirements to the initial point of mission execution. It may include theater sustainment.
  - **Integration** is the synchronized hand-off of units to an operational commander's force prior to mission execution.
5. **Employment:** The actual execution of tactical missions in support of the operational commander's plan.
6. **Redeployment:** Joint Pub 1-02 defines redeployment as the transfer of a unit or supplies from one area to another for the purpose of further employment. The objective is redeploy as quickly as possible to CONUS, an intermediate staging base, or another theater of operations. APA elements might be redeployed to an intermediate staging area to conduct regeneration activities.
7. **Regeneration/Reconstitution of Equipment:** This phase includes all activities necessary to return APA assets to their original condition and upload them on to APA vessels. At the strategic level this may require reconstitution from other in-theater pre-position AWR assets or from equipment left in CONUS by units deployed to use APA equipment.

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END NOTES

<sup>1</sup> Department of the Army. "The Army Strategic Mobility Program." Information Briefing. Headquarters, Department of the Army, Washington, DC. October 1994, slide 7.

<sup>2</sup> Department of the Army. "Army War Reserve Program." Information Paper. War Reserve Support Command, Rock Island, Illinois. 1997, p. 8.

<sup>3</sup> Hines, Jay E., "Confronting Continuing Challenges: The History of the United States Central Command (<http://ccfs.centcom.mil/history2.html>).” United States Central Command. MacDill Air Force Base, Florida: 1995, p. 11-12.

<sup>4</sup> Department of the Army. FM 100-17-1 Army Prepositioned Afloat Operations. Washington, DC., July 1996, p. 1-1.

<sup>5</sup> Department of the Army. "The Army's Global Prepositioning Strategy." Information Briefing. War Plans Division, ODCSOPS, Washington, DC. February 1995, slide 11.

<sup>6</sup> Ibid. "The Army's Global Prepositioning Strategy," slide 10.

<sup>7</sup> Ibid. "Army War Reserve Program," p. 4.

<sup>8</sup> Ibid. "Army War Reserve Program," p. 2.

<sup>9</sup> Ibid. "Army War Reserve Program," p. 8.

<sup>10</sup> Ibid. FM 100-17-1 Army Prepositioned Afloat Operations, p. 1-4, 1-5.

<sup>11</sup> Ibid. FM 100-17-1 Army Prepositioned Afloat Operations, p. 3-3.

<sup>12</sup> Vego, Milan, "Operational Functions," Joint Military Operations Department Reading (NWC 4103), U.S. Naval War College, Newport, RI: August 1996, p. 1.

<sup>13</sup> Ibid. "Operational Functions," p. 2.

<sup>14</sup> Ibid. FM 100-17-1 Army Prepositioned Afloat Operations, p. 3-4.

<sup>15</sup> Ibid. FM 100-17-1 Army Prepositioned Afloat Operations, p. 2-0.

<sup>16</sup> Ibid. FM 100-17-1 Army Prepositioned Afloat Operations, p. 1-3.

<sup>17</sup> Ibid. "Operational Functions," p. 32

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<sup>18</sup> Ibid. FM 100-17-1 Army Prepositioned Afloat Operations, p. 3-6, 3-8.

<sup>19</sup> Department of the Army. FM 100-5 Operations. Washington, DC., 1993, p. 12-2.

<sup>20</sup> Ibid. FM 100-17-1 Army Prepositioned Afloat Operations, p. 1-4, 1-5.

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